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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

9

Office Action Summary	**Application No.** 10/605,631	**Applicant(s)** FRANCIOSA ET AL.	
	Examiner Usmaan Saeed	**Art Unit** 2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 November 2007*.

2a)☒ This action is **FINAL**. 2b)□ This action is non-final.

3)□ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)□ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)□ Claim(s) _____ is/are objected to.

8)□ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)□ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 October 2003* is/are: a)☒ accepted or b)□ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)□ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)□ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)□ All b)□ Some * c)□ None of:

1.□ Certified copies of the priority documents have been received.

2.□ Certified copies of the priority documents have been received in Application No. _____.

3.□ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) □ Notice of References Cited (PTO-892)

2) □ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) □ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4) □ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) □ Notice of Informal Patent Application

6) □ Other: _____.

DETAILED ACTION

1. Receipt of Applicant's Amendment, filed 11/02/2007 is acknowledged. Claims 1, 11, and 20 have been amended. Claims 1-20 are pending in this office action.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-2, 4-7, 10-12, 14-17, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Steven J. Simske. (Simske** hereinafter) (U.S. PG Pub No. 2004/0133560) in view of **Taher et al. (Taher** hereinafter) (NPL "Evaluating Strategies for Similarity Search on the Web" ACM, May 7-11, 2002, PP 1-23,) further in view of **Henkin et al.** (**Henkin** hereinafter) (U.S. PG Pub No. 2002/0107735).

With respect to claim 1 and 11, **Simske** teaches **a method for computing a measure of similarity between a first (or input) document one or more disparate (or search results) documents, comprising:**

"(c) receiving a first list of rated keywords extracted from the first document and a list of rated keywords extracted from each of the one or more disparate documents" as organizing electronic documents may include generating a list of weighted keywords for each document (**Simske** Abstract, Fig. 4 and Paragraph 0056). Paragraph 0056 teaches the many documents are being compared using shared/rated keyword lists.

"wherein keywords are rated at least in part by a relevant weight from their associated document language" as word weight may be computed (step 107), among other methods, by counting the number of times that word (including pronouns of that word) occurs in the document to produce a word count. By multiplying the word count by a "mean role weight" and a square root of the word's lemma length, which are used to estimate the word's importance, a total word weight is calculated. The "mean role weight" is determined by summing the average grammatical role weight, noun role weight, and layout role weight of a word. In the exemplary embodiment, the overall weight of each keyword is calculated (step 107) as shown in the following equation:

Weight=(GRoleWeighti.times.NRoleWeighti.times.LayoutWeighti).times.sqrt(length) (1) (**Simske** Paragraph 0028). This reference is finding weights in regards to the associated documents language because it is finding weight based on counting the number of times the word appears in that document.

"(d) comparing the first list of rated keywords and the list of rated keywords from each of the one or more disparate documents to determine whether the first document forms part of the one or more disparate documents using a first computed percentage indicating what percentage of keyword ratings in the first list also exist in the list of at least one or more disparate documents" as the clustering process begins when the weighted keyword lists of two or more documents are compared (step 601). The host device calculates a value, called "shared word weight," that correlates the two documents. The shared word weight value indicates the extent to which two or more documents are related based on their keywords. A higher shared word weight indicates that the documents are more likely to be related (**Simske** Paragraph 0048).

"(e) verifying inclusion of the first document in the one or more disparate documents by computing a second percentage for each of the one or more disparate documents indicating what percentage of keyword ratings along with a set of their neighboring keyword ratings in the first list also exist in the list for at least one of the one or more disparate documents when the first computed percentage indicates that the first document is included in at least one of the one or more disparate documents" as another possible way of weighting the relevancy metrics is to multiply the mean shared weight of extended words shared by two selected text units, e.g., sentences, by the frequency metric of the shared extended words, i.e., the mean ratio of the extended word occurrences in the two documents compared to their occurrences in the larger corpus (**Simske** Paragraph 0064).

"(f) using the first computed percentage to specify the measure of similarity when the computed second percentage for at least one of the one or more disparate documents is greater than the first computed percentage" as clustering documents with common titles, using weighted keywords to determine similarities between documents, etc., a preferred method uses a threshold shared word weight and a maximum, mean, or minimum shared word weight as explained above (**Simske** Paragraph 0055).

Simske teaches the elements of claim 1 as noted above but does not explicitly teach, **"receiving a first document and identifying the best keywords in the text by recognizing rare and uncommon keywords, including keywords that belong to one or more domain specific or subject matter dictionary and identifying documents similar to the first document using a query by formulating wrappers using the list of the best keywords identified in the first document that also appear in a DS dictionary," "ranking the one or more disparate documents indicating keyword ratings along with a set of their neighboring keyword ratings in the first also exit in the list for at least one of the one or more disparate documents," and "percentage of keywords and neighboring keywords."**

However, **Taher** teaches **"receiving a first document and identifying the best keywords in the text by recognizing rare and uncommon keywords, including**

keywords that belong to one or more domain specific or subject matter dictionary" as monotonic term weighting schemes, however, amplify the weight of terms with very low document frequency. This amplification is in fact good for ad-hoc queries, where *a rare term in the query should be given the most importance*. In the case where we are judging document similarities, rare terms are much less useful as they are often typos, rare names, or other nontopical terms that adversely affect the similarity measure. Therefore, we also experimented with nonmonotonic term-weighting schemes that attenuate both high and low document-frequency terms (**Taher** Page 9, 3.3 Term Weighting).

"identifying documents similar to the first document using a query by formulating wrappers using the list of the best keywords identified in the first document that also appear in a DS dictionary" as evaluation methodology has led us to the use of strategies that reflect the notion of "similarity" embodied in the popular ODP directory. For illustration, we have provided some sample queries in figure **13**. In figure **14** we have given the top 10 words (by weight) in the bags for these query urls (**Taher** Page 18, 7.2 Quality of retrieved documents). Figure 14 shows the 10 best keywords for a query in a bag.

"ranking the one or more disparate documents indicating keyword ratings along with a set of their neighboring keyword ratings in the first also exit in the list for at least one of the one or more disparate documents" as the goal of Web-page similarity search is to allow users to find Web pages similar to a query page [12]. In particular, given a query document, a similarity-search algorithm should provide a ranked listing of documents similar to that document (**Taher** Page 1, I.0 Introduction). **Taher** also discloses choosing some fixed window size W, and always include W words to the left, and W words to the right, of A_{vu}.[9]Specifically, we use $W \in \{0, 4, 8, 16, 32\}$. We use sentence, paragraph, and HTML-region-detection techniques to dynamically bound the region around A_{vu} that gets included in B_u. The primary document features that are capable of triggering a window cut-off are paragraph boundaries, table cell boundaries, list item boundaries, and hard breaks which follow sentence boundaries. This technique resulted in very narrow windows that averaged close to only 3 words in either direction (**Taher** Page 8, 3.1 Choosing Terms).

Further, **Taher** teaches, **"wherein keywords are rated at least in part by a relevant weight from their associated document language"** as (**Taher** Page 8-9, 3.3 Term Weighting).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Taher's** teachings would have allowed **Simske** to provide reduced costs in both time and resources and providing efficient and quality results (**Taher** Page 17-18).

Simske and Taher teach elements of claim 1 as noted above but do not explicitly teaches **"percentage of keywords and neighboring keywords."**

However, **Henkin** discloses **"percentage of keywords and neighboring keywords"** as (**Henkin** Paragraph 0222 & 0288).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Henkin's** teachings would have allowed **Simske and Taher** to determine the minimum percentage of matched words to be found in the document context in order to conclude that a match exists.

With respect to claim 2, **Simske** teaches **"the method according to claim 1, wherein the second percentage at (c) is computed by giving weight only to those keywords and their set of neighboring keywords in the first list that match in the second list and a threshold percentage of the keywords in their set of neighboring keywords"** as shown in Table 5, the documents share two keywords, "Hockey" and "Skating." The shared word weight value of the keywords may be chosen in a variety of ways, e.g., maximum, mean, and minimum (**Simske** Paragraph 0050).

Claim 12 is essentially the same as claim 2 except it sets forth the claimed invention as a system and is rejected for the same reasons as applied hereinabove.

With respect to claim 4, **Simske** teaches **"the method according to claim 2, wherein the threshold percentage is reduced when the first list of rated keywords is identified using OCR"** as the documents included in each cluster may be adjusted by changing the threshold of the required shared word weight for clustering (**Simske** Paragraph 0058). If any documents being considered are paper-based, tools such as a zoning analysis engine in combination with an optical character recognition (OCR) engine may be used to convert the paper-based document to an electronic document (**Simske** Paragraph 0016).

Claim 14 is essentially the same as claim 4 except it sets forth the claimed invention as a system and is rejected for the same reasons as applied hereinabove.

With respect to claim 5, **Simske** does not explicitly teaches **"the method according to claim 1, further comprising (e) if the first computed percentage does not indicate that the first document is included in the second document, computing a third percentage using the Jaccard distance measure."**

However, **Taher** discloses **"(e) if the first computed percentage does not indicate that the first document is included in the second document, computing a third percentage using the Jaccard distance measure"** as (**Taher** Page 9, 4 Document Similarity Metric).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Taher's** teachings would have allowed **Simske** to provide reduced costs in both time and resources and providing efficient and quality results (**Taher** Page 17-18).

Claim 15 is essentially the same as claim 5 except it sets forth the claimed invention as a system and is rejected for the same reasons as applied hereinabove.

With respect to claim 6, **Simske and Taher** do not explicitly teaches **"the method according to claim 5, further comprising (f) if the third computed percentage indicates that the first document is a revision of the second document, computing a fourth percentage indicating what percentage of keyword ratings along with a set of their neighboring keyword ratings in the second list also exist in the first list."**

However, **Henkin** discloses **"the method according to claim 5, further comprising (f) if the third computed percentage indicates that the first document is a revision of the second document, computing a fourth percentage indicating what percentage of keyword ratings along with a set of their neighboring keyword ratings in the second list also exist in the first list"** as (**Henkin** Paragraph 0229 & 0288).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Henkin's** teachings would have allowed **Simske and Taher** to determine the minimum percentage of matched words to be found in the document context in order to conclude that a match exists.

Claim 16 is essentially the same as claim 6 except it sets forth the claimed invention as a system and is rejected for the same reasons as applied hereinabove.

With respect to claim 7, **Simske** teaches **"the method according to claim 6, further comprising using the fourth computed percentage to specify the measure of similarity except when: (i) the fourth computed percentage is greater than the second computed percentage; (ii) the first list of rated keywords is identified using OCR; (iii) the fourth computed percentage is greater than fifty percent; and (iv) less than twenty percent of the keywords in the first list of keywords are in the second list of keywords"** as if any documents being considered are paper-based, tools such as a zoning analysis engine in combination with an optical character recognition (OCR) engine may be used to convert the paper-based document to an electronic document (**Simske** Paragraph 0016). The keywords in the documents are being identified using OCR in the reference. Therefore, there is no need for using fourth computed percentage to specify the measure of similarity.

Claim 17 is essentially the same as claim 7 except it sets forth the claimed invention as a system and is rejected for the same reasons as applied hereinabove.

With respect to claim 10, **Simske** teaches, **"the method according to claim 1, wherein the first document is a portion of the second document"** as a method and system for organizing electronic documents by generating a list of weighted keywords, clustering documents sharing one or more keywords, and linking documents within a cluster by using similar keywords, sentences, paragraphs, etc., as links. The embodiments provide customizable user control of keyword quantities, cluster selectivity, and link specificity, i.e., links may connect similar paragraphs, sentences, individual words, etc (**Simske** Paragraph 0015).

With respect to claim 20, **Simske** teaches **an article of manufacture for computing a measure of similarity between a first (or input) document and a second (or search results) document, the article of manufacture comprising computer usable media including computer readable instructions embedded therein that causes a computer to perform a method wherein the method comprises:**

"(c) receiving a first list of rated keywords extracted from the first document and a second list of rated keywords extracted from the second document" as organizing electronic documents may include generating a list of weighted keywords for each document (**Simske** Abstract, & Fig. 4).

"(d) using the first and second lists of rated keywords to determine whether the first document forms part of the second document using a first computed percentage indicating what percentage of keyword ratings in the first list also exist in the second list" as the clustering process begins when the weighted keyword lists of two or more documents are compared (step 601). The host device calculates a value, called "shared word weight," that correlates the two documents. The shared word weight value indicates the extent to which two or more documents are related based on their keywords. A higher shared word weight indicates that the documents are more likely to be related (**Simske** Paragraph 0048).

"(e) verifying inclusion of the first document in the second document computing a second percentage indicating what percentage of keyword ratings along with a set of their neighboring keyword ratings in the first list also exist in the second list when the first computed percentage indicates that the first document is included in the second document" as another possible way of weighting the relevancy metrics is to multiply the mean shared weight of extended words shared by two selected text units, e.g., sentences, by the frequency metric of the shared extended words, i.e., the mean ratio of the extended word occurrences in the two documents compared to their occurrences in the larger corpus (**Simske** Paragraph 0064).

"(f) using the first computed percentage to specify the measure of similarity when the second computed percentage is greater than the first computed percentage" as clustering documents with common titles, using weighted keywords to determine similarities between documents, etc., a preferred method uses a threshold shared word weight and a maximum, mean, or minimum shared word weight as explained above (**Simske** Paragraph 0055).

"the fourth computed percentage to specify the measure of similarity except when: (i) the fourth computed percentage is greater than the second computed percentage; (ii) the first list of rated keywords is identified using OCR; (iii) the fourth computed percentage is greater than fifty percent; and (iv) less than twenty percent of the keywords in the first list of keywords are in the second list of keywords" as if any documents being considered are paper-based, tools such as a zoning analysis engine in combination with an optical character recognition (OCR) engine may be used to convert the paper-based document to an electronic document (**Simske** Paragraph 0016). The keywords in the documents are being identified using OCR in the reference. Therefore, there is no need for using fourth computed percentage to specify the measure of similarity.

Simske teaches the elements of claim 20 as noted above but does not explicitly teaches **"(a) receiving a first document and identifying the best keywords in the text by recognizing rare and uncommon keywords, including keywords that belong to one or more domain specific or subject matter dictionary," "(b) identifying documents similar to the first document using a query by formulating wrappers using the list of the best keywords identified in the first document that also appear in a DS dictionary" "(g) if the first computed percentage does not indicate that the first document is included in the second document, computing a third percentage using the Jaccard distance measure," "percentage of keywords and neighboring keywords" and "(h) if the third computed percentage indicates that the first document is a revision of the second document, computing a fourth percentage indicating what percentage of keyword ratings along with a set of their neighboring keyword ratings in the second list also exist in the first list."**

However, **Taher** discloses **"(a) receiving a first document and identifying the best keywords in the text by recognizing rare and uncommon keywords, including keywords that belong to one or more domain specific or subject matter dictionary"** as monotonic term weighting schemes, however, amplify the weight of terms with very low document frequency. This amplification is in fact good for ad-hoc queries, where a rare term in the query should be given the most importance. In the case where we are judging document similarities, rare terms are much less useful as they are often typos, rare names, or other nontopical terms that adversely affect the similarity measure. Therefore, we also experimented with nonmonotonic term-weighting schemes that attenuate both high and low document-frequency terms (**Taher** Page 9, 3.3 Term Weighting).

"(b) identifying documents similar to the first document using a query by formulating wrappers using the list of the best keywords identified in the first document that also appear in a DS dictionary" as evaluation methodology has led us to the use of strategies that reflect the notion of "similarity" embodied in the popular ODP directory. For illustration, we have provided some sample queries in figure **13**. In figure **14** we have given the top 10 words (by weight) in the bags for these query urls (**Taher** Page 18, 7.2 Quality of retrieved documents). Figure 14 shows the 10 best keywords for a query in a bag.

"(e) if the first computed percentage does not indicate that the first document is included in the second document, computing a third percentage using the Jaccard distance measure" as (**Taher** Page 9, 4 Document Similarity Metric).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Taher's** teachings would have allowed **Simske** to provide reduced costs in both time and resources and providing efficient and quality results (**Taher** Page 17-18).

Simske and Taher teach the elements of claim 20 as noted above but do not explicitly teaches **"percentage of keywords and neighboring keywords" and "(f) if the third computed percentage indicates that the first document is a revision of the second document, computing a fourth percentage indicating what percentage of keyword ratings along with a set of their neighboring keyword ratings in the second list also exist in the first list."**

However, **Henkin** discloses **"percentage of keywords and neighboring keywords"** as (**Henkin** Paragraph 0222 & 0288) and **"(f) if the third computed percentage indicates that the first document is a revision of the second document, computing a fourth percentage indicating what percentage of keyword ratings along with a set of their neighboring keyword ratings in the second list also exist in the first list"** as (**Henkin** Paragraph 0229 & 0288).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Henkin's** teachings would have allowed **Simske and Taher** to determine the minimum percentage of matched words to be found in the document context in order to conclude that a match exists.

3. Claims 3 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Steven J. Simske.** (U.S. PG Pub No. 2004/0133560) in view of **Taher et al.** (NPL

"Evaluating Strategies for Similarity Search on the Web" ACM, May 7-11, 2002, PP 1-23,) further in view of **Henkin et al.** (U.S. PG Pub No. 2002/0107735) as applied to claims 1-2, 4-7, 10-12, 14-17, and 20 above, further in view of **Rie Kubota.** (**Kubota** hereinafter) (U.S. Patent No. 6,041,323).

With respect to claim 3, **Simske** teaches **"the method according to claim 2, wherein the second percentage at (c) is computed by giving full weight to those keywords in the first list of rated keywords that cannot be accurately identified as having a complete set of neighboring keywords in the second set of keywords"** as the experiment consists of varying the weighting, e.g., ranging the weight from 0.1 to 10.0 using 0.1 steps, for a particular attribute (**Simske** Paragraph 0032). Examiner considers 10 as being full weight.

Simske teaches the elements of claim 3 as noted above but does not explicitly disclose **"keywords that cannot be accurately identified as having a complete set of neighboring keywords in the second set of keywords."**

However, **Kubota** discloses **"keywords that cannot be accurately identified as having a complete set of neighboring keywords in the second set of keywords"** as the fixed length chain is searched from the character chain file. In step 508, if it is determined that no fixed length chain is found, a message box is preferably displayed in step 526 for indicating that the search character string cannot be found, and the process ends (**Kubota** Col 26, Lines 44-48). Therefore the reference teaches that keywords are not found in the second set of keywords/document.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Kubota's** teachings would have allowed **Simske and Henkin** to provide a search method, which requires less storage capacity and extracts a unique character string at a high speed (**Kubota** Col 2, Lines 51-53) and to provide a method for searching for a comparison document, which has character strings similar to a partial input character string existing in an input document (**Kubota** Col 2, Lines 3-6).

Claim 13 is essentially the same as claim 3 except it sets forth the claimed invention as a system and is rejected for the same reasons as applied hereinabove.

4. Claims 9 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Steven J. Simske.** (U.S. PG Pub No. 2004/0133560) in view of **Taher et al.** (NPL "Evaluating Strategies for Similarity Search on the Web" ACM, May 7-11, 2002, PP 1-23,) further in view of **Henkin et al.** (U.S. PG Pub No. 2002/0107735) as applied to claims 1-2, 4-7, 10-12, 14-17, and 20 above, in view of **Drissi et al.** (**Drissi** hereinafter) (U.S. PG Pub No. 20003/0149686).

With respect to claim 9, **Simske** does not explicitly teaches **"the method according to claim 1, wherein the first list of rated keywords includes one or more keywords translated from a second language different from a first language that is identified as being a primary language of the first document."**

However, **Drissi** discloses **"the method according to claim 1, wherein the first list of rated keywords includes one or more keywords translated from a second language different from a first language that is identified as being a primary language of the first document"** as an inverted index 214 is created from the translated keywords. The translation of keywords is preferably accomplished using a keyword dictionary 220 which included words in English associated with the corresponding keywords in the national language (and vice versa) to form a synonym listing which effectively translates a keyword in one language into the corresponding term in another language and vice versa) (**Drissi** Paragraph 0024). Examiner interprets the national language as primary language.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Drissi's** teachings would have allowed **Simske and Henkin** to provide translation process to allow searching of the documents in different languages (**Drissi** Paragraph 0012).

Claim 19 is essentially the same as claim 9 except it sets forth the claimed invention as a system and is rejected for the same reasons as applied hereinabove.

5. Claims 8 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Steven J. Simske.** (U.S. PG Pub No. 2004/0133560).

With respect to claim 8 **Simske** teaches **"the method according to claim 1, wherein the first computed percentage indicates that the first document is included in the second document when the percentage defined by ratio of Sum1/Sum2 is greater than approximately ninety percent, where"** as for example, if a threshold shared word weight value of 0.7 is designated, and the two documents of Table 5 are being compared for possible clustering, using the maximum shared word weight value (1.0) will cluster the two documents, while using the mean shared word weight (0.5) or minimum shared word weight values (0.3) will not cluster the two documents (**Simske** Paragraph 0052). Examiner interprets the threshold value of 70 percent as 90 percent.

"D1 is the number of keywords in first list of keywords" as table 5 with keywords from document 1 and document 2 (**Simske** Paragraph 0049).

"D2 is the number of keywords in the second list of keywords" as table 5 with keywords from document 1 and document 2 (**Simske** Paragraph 0049).

"Sum1 is the sum of the weights of keywords that appear in D1 that also appear in D2" as the sum of all weight values for "Hockey" and "Skating" is 0.4+0.25+0.3+0.05=1.0 (**Simske** Paragraph 0052). Hokey and Skating appear in both D1 and D2.

"Sum2 is the sum of the weights of keywords in D1" as the keywords are located, a sentence weight is calculated (502), for example, by adding together all the keyword weights (**Simske** Paragraph 0045).

Simske teaches the elements of claim 8 as noted above but does not explicitly discloses **"Sum1/Sum2."**

However, **Simske** teaches **"Sum1/Sum2"** as the mean shared word weight value is [fraction (1.0/2)]=0.5 (**Simske** Paragraph 0052).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited reference to find the ratio for two possible similar documents by dividing the sum of keywords from both documents by sum of keywords in one document.

Claim 18 is essentially the same as claim 8 except it sets forth the claimed invention as a system and is rejected for the same reasons as applied hereinabove.

Response to Arguments

6. Applicant's arguments filed 11/02/2007 have been fully considered but they are not persuasive.

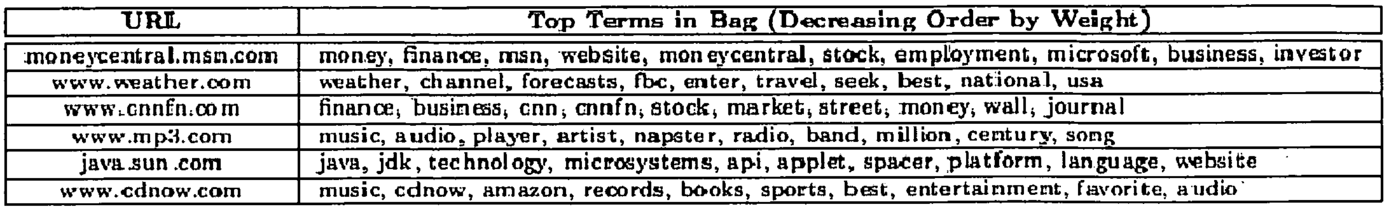
In these arguments applicant relies on the amended claims and not the original ones.

Applicant argues that **Simske, Taher, and Henkin** do not teach **"receiving a first document and identifying the best keywords in the text by recognizing rare and uncommon keywords, including keywords that belong to one or more domain specific or subject matter dictionary and identifying documents similar to**

the first document using a query by formulating wrappers using the list of the best keywords identified in the first document that also appear in a DS dictionary."

However, **Taher** teaches **"receiving a first document and identifying the best keywords in the text by recognizing rare and uncommon keywords, including keywords that belong to one or more domain specific or subject matter dictionary"** as monotonic term weighting schemes, however, amplify the weight of terms with very low document frequency. This amplification is in fact good for ad-hoc queries, where *a rare term in the query should be given the most importance*. In the case where we are judging document similarities, rare terms are much less useful as they are often typos, rare names, or other nontopical terms that adversely affect the similarity measure. Therefore, we also experimented with nonmonotonic term-weighting schemes that attenuate both high and low document-frequency terms (**Taher** Page 9, 3.3 Term Weighting).

"identifying documents similar to the first document using a query by formulating wrappers using the list of the best keywords identified in the first document that also appear in a DS dictionary" as evaluation methodology has led us to the use of strategies that reflect the notion of "similarity" embodied in the popular ODP directory. For illustration, we have provided some sample queries in figure **13**. In figure **14** we have given the top 10 words (by weight) in the bags for these query urls (**Taher** Page 18, 7.2 Quality of retrieved documents). Figure 14 shows the 10 best keywords for a query in a bag.



URL	Top Terms in Bag (Decreasing Order by Weight)
moneycentral.msn.com	money, finance, msn, website, moneycentral, stock, employment, microsoft, business, investor
www.weather.com	weather, channel, forecasts, fbc, enter, travel, seek, best, national, usa
www.cnnfn.com	finance; business; cnn; cnnfn; stock; market; street; money; wall; journal
www.mp3.com	music, audio, player, artist, napster, radio, band, million, century, song
java.sun.com	java, jdk, technology, microsystems, api, applet, spacer, platform, language, website
www.cdnow.com	music, cdnow, amazon, records, books, sports, best, entertainment, favorite, audio

Figure 14: Top 10 words from sample bags

Further applicant argues that **Simske** does not teach or suggest **"using the first and second lists of rated keywords to determine whether the first document forms part of the second document using a first computed percentage indicating what percentage of keyword ratings in the first list also exist in the second list," "computing a second percentage indicating what percentage of keyword ratings along with a set of their neighboring keyword ratings in the first list also exist in the second list when the first computed percentage indicates that the first document is included in the second document."**

In response to applicant arguments examiner respectfully submits that **Simske** teaches **"using the first and second lists of rated keywords to determine whether the first document forms part of the second document using a first computed percentage indicating what percentage of keyword ratings in the first list also exist in the second list"** as the clustering process begins when the weighted keyword lists of two or more documents are compared (step 601). The host device calculates a value, called "shared word weight," that correlates the two documents. The shared word weight value indicates the extent to which two or more documents are related based on their keywords. A higher shared word weight indicates that the documents are more likely to be related (**Simske** Paragraph 0048).

"computing a second percentage indicating what percentage of keyword ratings along with a set of their neighboring keyword ratings in the first list also exist in the second list when the first computed percentage indicates that the first document is included in the second document" as another possible way of weighting the relevancy metrics is to multiply the mean shared weight of extended words shared by two selected text units, e.g., sentences, by the frequency metric of the shared extended words, i.e., the mean ratio of the extended word occurrences in the two documents compared to their occurrences in the larger corpus (**Simske** Paragraph 0064).

Simske teaches the elements of argued limitation as noted above but does not explicitly teach, **"percentage of keywords and neighboring keywords."**

However, **Henkin** discloses **"percentage of keywords and neighboring keywords"** as (**Henkin** Paragraph 0222 & 0288).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Henkin's** teachings would have allowed **Simske** to determine the minimum percentage of matched words to be found in the document context in order to conclude that a match exists.

Further, regarding claim 20, applicant argues that **Simske** does not teaches **"a fourth computed percentage to specify the measure of similarity except when: (i) the fourth computed percentage is greater than the second computed percentage; (ii) the first list of rated keywords is identified using OCR; (iii) the fourth computed percentage is greater than fifty percent; and (iv) less than twenty percent of the keywords in the first list of keywords are in the second list of keywords"**.

In response to the preceding arguments examiner respectfully submits that **Simske** teaches **"the fourth computed percentage to specify the measure of similarity except when: (i) the fourth computed percentage is greater than the second computed percentage; (ii) the first list of rated keywords is identified using OCR; (iii) the fourth computed percentage is greater than fifty percent; and (iv) less than twenty percent of the keywords in the first list of keywords are in the second list of keywords"** as if any documents being considered are paper-based, tools such as a zoning analysis engine in combination with an optical character recognition (OCR) engine may be used to convert the paper-based document to an electronic document (**Simske** Paragraph 0016). The keywords in the documents are being identified using OCR in the reference. Therefore, there is no need for using fourth computed percentage to specify the measure of similarity.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Usmaan Saeed whose telephone number is (571)272-4046. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on (571)272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Patent Examiner
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Hosain Alam
Supervisory Patent Examiner

US
January 14, 2008